

Measuring the Impact of Child Care Expenses on Poverty*

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Abstract

Many families, especially those with low incomes, confront the challenge of paying for child care expenses in order to work and earn a living. Recognizing this, a National Academy of Sciences Panel on Poverty and Family Assistance recommended taking these expenses into account in a new, updated measure of poverty. Employing 1995 data from the Survey of Income and Program Participation, this paper compares the effect of using different methods of estimating child care expenses on poverty rates under the new, experimental poverty measure.

Our analysis indicates that the NAS's specific recommendations for taking child care expenses into account could be improved. While the overall differences in the effect of the different methods are moderate, the alternatives we propose are conceptually more appealing and technically no more complex to implement than the NAS methods. A couple of these methods should therefore receive serious consideration for adoption in the experimental poverty measure.

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Introduction

Women's labor force participation rates increased sharply over the past four decades. About 70 percent of women with children were in the labor force in 1996, up from 57 percent in 1980 and 30 percent in 1960 (U.S. House of Representatives 1998). Working women, especially those moving off welfare rolls and into the labor market, confront the challenge of what to do about child care, especially the prospect of paying child care expenses. While some government programs offer subsidies for those who qualify, expenses can still be prohibitive. This paper compares different methods of estimating the impact of child care expenses on poverty using experimental measures of poverty which take these and other expenses into account. The new measures are based on more general recommendations by the National Academy of Sciences Panel on Poverty and Family Assistance, which concluded that the current official measure of poverty is deficient in its definition of both disposable income and corresponding poverty thresholds (Citro and Michael 1995).

This analysis draws on 1995 data from the 1993 Survey of Income and Program Participation (SIPP) panel file and the SIPP wave 9 topical module on child care to examine methods of accounting for child care expenses, and to gauge their effect on measures of disposable income and poverty.

Child Care and Economic Well-Being

The growing number of mothers in the labor force has been accompanied by an increase in demand for child care. In 1995, 10.9 million children under 5 were in need of child care while their mothers worked or were in school (Smith 2000). About three-fifths were cared for by

relatives at some point, just over a third were in organized child care facilities, and another one in five were in family day care settings (Smith 2000).¹ Families with young children are more likely to rely on organized child care facilities than families with older children (U.S. House of Representatives 1998).

Average child care costs have risen. In 1995, families spent on average \$85 a week, up from \$59 in 1985 (in constant 1995 dollars) (Smith 2000). About 33 percent of poor families with children paid for child care, versus 41 percent of non-poor families. Yet poor women who do pay for child care spent 35 percent of their income on such care, compared with 7 percent spent by nonpoor families (Smith 1995). Similarly, working mothers receiving welfare benefits pay about a third of their earned income on child care (Gault, Hartmann, and Yi 1998). Thus, when low-income families do pay for child care, the relative burden is, unsurprisingly, more severe than among non-poor families.

In response to some of these pressures, government subsidies for child care have increased substantially over the past decade, such as in the form of larger federal block grants to state programs and the continuation of the Dependent Care Tax Credit, which provides significant child care tax breaks for many low-income families (see U.S. House of Representatives 1998). Nevertheless, many families still face high child care costs. This study gauges the extent to which net child care and work-related expenses incurred by families contribute to poverty using an improved poverty measurement method proposed by an NAS Panel on Poverty and Family Assistance. The Panel's recommendations are described below.

Poverty Measurement Issues

¹ The percentages exceed 100% because many parents use multiple child care arrangements for a given child.

Adopted in 1965 and revised only slightly since then, the current official poverty measure consists of a set of thresholds for families of different sizes and composition that are compared to a resource measure to determine a family's poverty status. The thresholds represent the cost of a minimum diet, which is then multiplied by three to allow for expenditures on other goods and services. It is updated yearly using the Consumer Price Index (CPI). The definition of family resources used is gross cash income.

Concerns about the adequacy of this measure increased during the past two decades (Ruggles 1990), culminating in a Congressional appropriation for an independent scientific study of the concepts, measurement methods, and information needs for a poverty measure. In response, the National Research Council of the National Academy of Sciences (NAS) established the Panel on Poverty and Family Assistance, which released its report titled *Measuring Poverty: A New Approach* (Citro and Michael 1995).

The NAS panel identified several major weaknesses in both the threshold and the resource definition of the current poverty measure. For example, the current thresholds are rather crudely devised, and the current income measure does not reflect the effects of tax payments and near-cash benefits (such as food stamps and housing subsidies). Of particular interest to our study, the NAS panel also recommended that working expenses and work-related child care expenses be deducted from income. Specifically, it recommended (p. 10) that, "for families in which there is no nonworking parent, deduct actual child care costs, per week worked, not to exceed the earnings of the parent with the lower earnings or a cap that is adjusted annually for inflation."

The rationale for this recommendation is that, similar to their payments for taxes, families with working parents have very little discretion in their payments for child care (see pp. 206-

207). Whether this general treatment of child care is the appropriate is an open question. Clearly, there is tremendous variation in families' child care utilization patterns and expenditures. Only a fraction of working families with small children pay for child care. For instance, Smith (2000) reports that in the Fall of 1995, only 41 percent of families with employed mothers and children under age 15 made any payments for their child care arrangements and that payments differed depending on characteristics of the family. While it seems reasonable to assume that parents have little discretion regarding whether to arrange for child care, they appear to have substantial discretion in determining the type and cost of arrangement.

Although child care might be treated in the same way as other basic household expenses like food, clothing and shelter and entered as an adjustment to thresholds rather than resources, the NAS panel argued against the threshold approach. Some of the panel's arguments were not very compelling. For example, the panel claimed that adding child care and other work expenses to the threshold amounts would complicate the computation of thresholds. While this is certainly true, subtracting these amounts from family resources is no less complicated—the real source of complication is in measuring these expenses in the first place.

The panel's stronger arguments were more practical than conceptual. Specifically, the panel found that there simply were not enough data to accurately measure total expenses separately for working and non-working families in the survey it recommended be used to establish the thresholds (the Consumer Expenditure Survey). The child care data recommended by the panel—the Survey of Income and Program Participation—were much more extensive. Mathematically, it does not make much difference whether these costs are added to family expenses or subtracted from resources.

For comparability with previous analyses and because we cannot address the problems of the general expenditure data, our study follows the NAS recommendation and continues to examine child care costs within a “resource” rather than a “threshold” framework. The study focuses on the best way to impute child care costs and distinguish between discretionary and non-discretionary expenditures.

Two main templates—the NAS method and the SIPP median method-- for estimating child care expenses have been implemented in U.S. Census Bureau experimental poverty reports (e.g., Short et al. 1999, Dalaker and Proctor 2000). The NAS method relies on data from SIPP to impute child care expenses to Current Population Survey (CPS) families—as the CPS is the current source of many of our poverty statistics. Two sets of equations are used: a logistic regression to estimate which families purchase care, and an ordinary least squares (OLS) equation to estimate payment amounts for the subset of families that purchase care. These amounts are then capped to not exceed the earnings of the parent with lower earnings, or the limit on the dependent care tax credit, whichever value is lower (the cap on the dependent care tax credit is \$2,400 for one child or \$4,800 for two or more children).

The NAS imputation method suffers from some technical weaknesses. First, the logistic and OLS regressions have poor explanatory power; that is, they do not appear to explain a large part of the variance in child care expenses. Second, there is nothing that constrains the predicted expenditures from the OLS model to be positive. The models initially generate a fair number of negative predictions (in part because of their poor explanatory power). If these amounts are artificially constrained to be positive—either by setting them equal to a small amount or repeating the generating process until a positive amount is predicted—the resulting distribution of expenditures is skewed upward and overestimates child care expenses.

In addition to problems with the statistical models, there are problems with how the caps on estimated child care expenses are set. The general purpose of a cap is to try to subtract only “discretionary” expenses from family’s incomes. That is, the conceptual underpinning of subtracting child care in the first place when measuring poverty is to take only account of expenses paid by families in order to work and otherwise earn a living. In real life, many families may pay child care even when not at work, or may pay very high costs to obtain high quality (e.g., a full-time nanny). The NAS panel method of setting the cap to the limit on the child and dependent care tax credit, while not completely unreasonable, is still rather arbitrary. Furthermore, this tax credit has not been adjusted for inflation in years.

As an alternative to the NAS method, researchers at the Census Bureau have also considered a median expenditure method based on data from the SIPP. This method subtracts from all working families with children under 12 an amount equal to 85 percent of the median of child care expenses, by number and age of children, as reported in the SIPP. This fixed cost method is analogous to the way other basic costs—housing, food, clothing, and shelter—are handled in the poverty measure, except here they are subtracted from the resource side rather than included in the thresholds. It also implicitly recognizes that child care is a basic responsibility for all working families with children—whether they pay for care or use some other type of unpaid arrangement.

A small problem is that the SIPP median method approach of subtracting 85 percent of median expenses is not completely consistent with how other threshold expenses are calculated in the experimental poverty measures (using expenses at the 30-35th percentile of the entire distribution). Nevertheless, on the whole, the SIPP median method provides a decent way of taking child care expenses into account, if its more general conceptual premise is accepted.

Analysis Data Set

For this analysis we use 1995 data from the 1993 SIPP panel file and the wave 9 topical module on child care arrangements and expenses. The SIPP, a longitudinal survey of the U.S. civilian non-institutionalized population, contacts households every 4 months for about 3 years, depending on the panel. In 1993, a 3-year panel with about 22,000 eligible households was begun.

In this analysis, we use the SIPP to both evaluate the effectiveness of our child care estimation models-- where we can compare actual reported expenses to imputed expenses, and because the NAS Panel recommended that over the longer run the SIPP should become the basis of official U.S. income and poverty statistics in place of the CPS. The SIPP has the advantage of asking more relevant questions and obtaining income data of higher quality. Research and development using SIPP data is underway to determine the feasibility of having it become the official source of poverty statistics. For example, research is currently being conducted on accurately modeling tax expenditures in the SIPP, and on processing and releasing SIPP panel data in a more timely manner than in the past. In future work we also plan to apply SIPP child care estimates to CPS data, and therefore compare experimental poverty rates calculated with different data sources.

Imputation Methods

We begin by examining a variety of imputation methods including the NAS modeling approach, several other model-based methods, a matching approach, and the SIPP median expenditure method. Summary statistics from the alternative methods are reported in Tables 1

and 2 (See Appendix Tables A1 and A2 for detailed results from the various models). Table 1 presents the actual percentage of working families that purchased child care, the predicted percentages from the alternative imputation methods, and the correlations between the predicted and actual outcomes. Table 2 presents the mean and standard deviation of actual child care expenditures (including zeros), means and standard deviations of predicted expenditures, and correlations between the actual and predicted expenditures. Both tables report these statistics separately for single-parent and married-couple families.

To apply the NAS imputation method, we restrict the sample to families with children under 12 years of age in which each of the parents is economically active (working, looking for work or in school). We estimate separate logit models for married and other families in which the dependent variable is a binary indicator for whether or not the family paid for child care. For the subset of families who pay for child care, we then estimate marriage-specific linear regressions in which weekly expenditures are the dependent variable. The logit and conditional linear regression models include indicators for whether the family head was black or Hispanic, the number of children 0-5, 6-11, 12-15, and 16-18 years of age, indicators for region of residence, and the natural logarithm of annual family income as explanatory variables. The logit and conditional regression models for married families include the proportion of family earnings accounted for by the mother as an additional control. Using the results from the logit models, we predict the probability that a family pays for child care and impute payment status by comparing the predicted probability with a uniform (0,1) random variable. For the families who are imputed to have payments, we impute expenditures using the coefficients from the conditional regression model. The expenditure imputations include a normal random error scaled to have the

same standard deviation as the mean square error from the regression. The reason for appending these random terms is to match the variability of the original data.

As we mentioned earlier, nothing in the regression equation constrains the predicted expenditures to be positive. Indeed, when we apply the NAS procedure, negative amounts are imputed to roughly a quarter of the families predicted to purchase care. To arrive at sensible expenditure amounts we replace all of the out-of-range imputations with a minimum amount of \$1. This correction has the unfortunate side effect of increasing the average prediction. As Table 2 shows, the mean of the imputed expenditures is \$20 (50%) higher than the mean for actual expenditures for unmarried families and \$10 (20%) higher than the actual mean for married families. The imputed amounts under the NAS procedure are only weakly correlated with the true amounts (11 percent for unmarried families and 20 percent for married families).

The first modification that we consider is to remove outliers from the conditional expenditure regressions by dropping families who reported more than \$750 a week in child care costs (roughly one percent of the families with positive expenditures). Removing these observations leads to large improvement in the fit statistics for the conditional linear regressions—for unmarried families, the R^2 increases from .12 to .18 while for married families, the R^2 increases from .17 to .21. This simple step leads to fewer initial out-of-range predictions, better average imputations, and more highly correlated imputations than the NAS procedure.

Next we augment the logit models and linear regressions to include controls for the mother's average weekly hours, the square of her hours, education (some high school, high school, some college, or college), age, age-squared, an indicator for metropolitan residence, finer controls for the age distribution of children, and the number of adults in the household. These variables have been found to be significant predictors of paid child care utilization and care

expenditures in other studies. We estimate the logit models for the full samples and the conditional linear regressions for the trimmed sample. The added variables are jointly significant. The fit statistics for all of the models improve considerably. Like the simpler, trimmed models, the augmented models lead to mean predictions that are very close to the true mean expenditure levels. Correlations between the actual and imputed expenditures are higher than those for the other two approaches; however, the absolute values of the correlations remain low.

The next three models use different non-linear specifications that are constrained to produce non-negative expenditure imputations. All of the non-linear specifications include the same explanatory variables as the augmented linear regression; all are also estimated on the trimmed sample. The first of the non-linear specifications replaces the expenditure variables with their natural logarithms. Imputations are formed by taking the exponential of the predicted outcome. Besides being constrained to predict positive expenditures, the log-linear approach has the advantage that it tends to reduce the effect of outliers. The chief disadvantage of the approach is that it may not predict the moments of the linear variable very well. This concern turns out to be unfounded; the means and standard deviations of the imputed values are both very close to the corresponding statistics for the actual values. The correlations with the actual values, however, are not quite as strong as from the augmented linear model.

The second non-linear specification replaces the expenditure variable with its square root (the square root function has a similar shape to the logarithm function but increases at a faster rate for all but the smallest expenditure values). After the model is estimated, imputations are formed by squaring the predictions. As with the log-linear model, the square root model is not guaranteed to predict moments for the linear outcome well. From Table 2, the average of the

imputations is close to the average of the actual outcomes, but the standard deviation is smaller than any of the other model-based methods. The imputations from square root regressions, however, are more highly correlated with the actual values than the other model-based imputations.

The third non-linear specification is a maximum likelihood estimation (MLE) Tobit model. The main disadvantage of the Tobit approach is that it based on strong assumptions regarding the distribution of the errors (it assumes they are normal) and the sources of censoring and selection (it assumes that all censoring comes from below and is directly related to the latent level of expenditures). The model also tends to be sensitive to these assumptions. When we apply this model, it performs about as well as the linear augmented model. The mean imputation values are close to the sample means; the standard deviations are slightly smaller than the standard deviations from the linear models.

We also try a simple, “hot-deck” matching approach. The criteria we apply for matching are fairly crude. We form cells for the number and age distribution of children (5 categories), income level (3 categories which differed across marital status), and the presence of an extra adult in the household or child over 11 in the family (2 categories). We interact all of these categories (along with marital status) to form 60 total cells. Families are then randomly matched to other observations in the same cell (no family is matched to its own expenditure data). The characteristics of the imputations from this procedure are shown in the next to last row of Table 2. Not surprisingly, the imputations based on matching do an excellent job of capturing the mean and standard deviation of the actual outcomes. They are more highly correlated with the actual outcomes than the imputations from the NAS method and about as strongly correlated as the imputations from the other model-based methods.

The final approach that we consider is the SIPP median method. This method involves subtracting fixed amounts from all working families with children in different age categories. The amount subtracted is set at 85 percent of the median payment made by working families with a given number and age distribution of children who purchase care. For families with one child under 12 years old, the median weekly payments in the Fall of 1995 were \$63 if the child was under 6 and \$29 if the child was 6 or over. For families with more than one child under the age of 12, the median weekly payments were \$40 if none of the children was under age 6, \$73 if one child was under age 6, \$100 if two children were under age 6, and \$137 if three or more children were under age 6. As Table 2 indicates, the median expenditure method does a fair job of reproducing the mean expenditures in the sample; it also produces the highest correlation with the actual expenditures. The main (and obvious) drawback of the method is the lack of variation.

Discretionary Expenditures

The NAS panel was concerned with the non-discretionary, work-expense aspects of child care costs. To isolate the work-expense components of child care costs, the panel recommended that the reduction from resources for care costs be adjusted for weeks worked. To isolate the non-discretionary component, it further recommended that the reduction be capped by the annual earnings of the lower-earning parent and by another cap. The other cap that the panel chose was the maximum expenditures permitted under the Child and Dependent Care Tax Credit (CDCTC)—\$2,400 for families with one child, \$4,800 for families with two or more children.

To examine the effects of these and some alternative capping procedures, we apply the procedures directly to the reported expenditures for working families from the SIPP. The mean expenditures obtained from the different procedures are reported in Table 3.

The first row in Table 3 simply reports the average weekly expenditures from Table 2 multiplied by 52. This is a common way that weekly expenditures are “annualized” in other analyses. Because the measure does not account for weeks worked, it can be viewed as an upper bound on annual child care expenditures.

The second row in Table 3 reports average weekly expenditures that have been (a) multiplied by the number of weeks worked by the parent with the fewer weeks worked and (b) capped by the annual earnings of the parent with the lower earnings. The adjustment dramatically reduces the mean annual expenditure values; the adjusted figures are 40% lower for single-parent families and 30% lower for married-couple families. While the amounts are much lower than in the first row, it is still difficult to determine whether these figures over- or understate non-discretionary expenditures. On the one hand, there is no explicit adjustment for discretionary expenditures; so, non-discretionary costs could be overstated. On the other hand, there might be expenses related to producing income (e.g., expenses incurred while looking for work or attending school) or maintaining a stable care environment while between jobs that are under-stated when a work-weeks adjustment is applied.

The figures in the third row of Table 3 are further adjusted to be no more than the maximums under the CDCTC. This again reduces annual expenditure figures. The mean amounts for single-parent and married-couple families each fall by more than a third.

In the next row of Table 3, we use an alternative model-based adjustment for discretionary expenditures. A new feature of the topical module in the 9th wave of the 1993 SIPP is data on child care expenses among non-working families (previous topical modules only contained data on expenditures by working families). Following the study by Hotz and Kilburn (1995), we estimate selectivity-adjusted regression models for weekly child care expenditures by

non-working families. We use the results from these models to impute “non-working” expenditures to the working families (the selectivity adjustments in the initial models are required because we impute “out of sample”). We then interpret the difference between working families’ actual expenditures and their imputed values of non-working expenditures as a measure of weekly non-discretionary, work-related expenses.

The only difficulty that we encounter in estimating the models for non-working families is the small number of observations. Among the single-parent families in our analysis sample, only about 250 are non-working, and of these, only about 50 purchased care. The corresponding numbers for the married couple families are roughly 900 and 270. Because of this, the resulting model estimates are relatively imprecise (in subsequent work we will consider pooling samples and other modifications to the model).

When we subtract the non-working expenditures from the actual amounts and adjust for weeks worked and annual earnings, we obtain estimates of non-discretionary expenditures that are higher than the NAS figures but lower than figures that do not include a “discretionary” adjustment. In the case of single-parent families, the mean amount under the model-based procedure is a little higher than the NAS amount; for married-couple families, the model-based figure is substantially higher.

In the final row of Table 3, we report amounts that were obtained by multiplying the SIPP median expenditures by weeks worked and capping the resulting expenditures by annual earnings. The median expenditure figures are higher than the both the NAS and model-based amounts.

Effects of Alternative Measures on Measured Poverty

Finally, we calculate the marginal impact of expenses using different estimation methods on poverty rates to evaluate to what extent using alternative methods matters (see Table 4). According to the poverty measure calculated using the current official methodology in which no child care expenses are subtracted, 18.2 percent of people in working families with children under 12 years old are poor. If we subtract child care expenses as calculated under the NAS method from family income, we get a poverty rate 0.6 percentage points higher—18.8 percent. The poverty rate using the Tobit with NAS caps, at 19.2 percent, is slightly higher than the NAS poverty rate, probably because it is more likely to impute expenses to families closer to the official poverty line.

The poverty rate estimated under the Tobit with the new discretionary caps (which are calculated by comparing expenses among working and non-working families) is 19.1 percent. The finding that this rate is no higher than the rate estimated under Tobit with the NAS caps is not expected, given that Table 3 showed that the new discretionary caps tend to produce higher mean imputed expenses than the NAS caps. What might be driving this result is that child care expenses may vary slightly less between working and non-working families near the official poverty line. That is, when working and non-working families have relatively similar expenses, then a lower amount of these expenses are considered discretionary (according to the new caps model), and a smaller amount of expenses are therefore subtracted from families' income when determining poverty. This might be particularly true among single-parent families, who, as shown in Table 2, pay lower mean child care amounts in general than other families. We would caution that these results should still be viewed as preliminary, and that these estimates are somewhat imprecise due to small sample sizes, as described above.

Poverty rates estimated using the SIPP median method are highest of all, at 20.1 percent. For estimating differences in poverty rates across demographic subgroups, the SIPP median method tends to produce relatively higher poverty estimates than the model-based estimates among groups which are least likely to use paid child care. For example, poverty rates based on the SIPP median method are particularly high among families with an African American family head and among single-parent female-householders, because while only relatively few of these families are imputed costs in the statistical methods (in line with actual reports), *all* of these working families with children under the SIPP median method are imputed costs.

Conclusion

Using data from the Survey of Income and Program Participation, this paper compares the effect of using different methods of estimating child care expenses on poverty rates under the new, experimental poverty measure which takes these expenses into account. Results indicate that the NAS's specific technical recommendations for accounting for child care could be improved.

The NAS recommended a two step-procedure to estimate costs in order to impute child care cost to CPS families (the CPS is the current source of official poverty statistics but lacks data on child care expenses), and also to SIPP families, where we have expense data for only part of the calendar year. The first step of the procedure involves determining who incurs costs via a logit, and then assigning an amount of expenses via an OLS regression. The statistical models proposed by the NAS are weak because they have poor explanatory power and because they over-estimate expenses. We propose alternative models which have both moderately greater explanatory power, and which more accurately capture mean expenses.

A second weakness of the NAS method is its approach to capping expenses (caps are used to try to capture only non-discretionary work-related child care expenses). The NAS panel proposed a cap equal to the Child and Dependent Care Tax Credit. This cap is somewhat arbitrary. To more directly measure discretionary expenses, we basically examined differences in child care expenses among working and non-working families to estimate what proportion of expenses can be considered discretionary. The caps we devised are modestly higher than the NAS caps.

Results showed the marginal impact of subtracting child care expenses from the income of working families with children under 12 years old using the NAS method was to increase estimated poverty rates from 18.2 percent under the official measure (which does not take these expenses into account) to 18.8 percent. Yet the overall impact of implementing the alternative methods described above are modest, as they produce only slightly higher poverty rates than the NAS method. For example, our augmented MLE Tobit model with the discretionary caps produced a an estimated poverty rate of 19.1 percent. It should be cautioned that these results are only preliminary.

Conceptually, the NAS panel approach to subtracting child care implicitly assumes that paid care is a basic need for many, but not all, working families with children. We therefore implemented an alternative approach devised by researchers at the Census Bureau (see Short et al. 1999) called the SIPP median method, which subtracts from *all* working families with children under 12 an amount equal to 85% of the median of child care expenses as reported in the SIPP. The estimated poverty rate after subtracting child care expenses under this method from family income is 20.1 percent—higher than the rate under the other methods.

Which is the most appropriate method of estimating child care expenses in a poverty measure? From a technical standpoint, we have proposed alternatives with the NAS measure which improve the models' explanatory power and which are also substantively more defensible. Their overall impact on poverty currently only differs modestly as compared to the NAS method. Whether these models are superior to the SIPP median method remains an open question. It comes down to deciding whether it is appropriate to impute expenses to all working families with children, even if a (slight) majority of these families do not actually incur such costs. The SIPP median method assumes that there are often non-monetary costs of using unpaid child care which indirectly make people materially worse off.

Overall, the refined model-based estimates may present the best approach. Even if we assume that poverty is somewhat of a relative phenomenon—that it represents economic marginalization-- deprivation relative to social norms and to society's standards, then it may not make sense to impute these expenses to all working families with children, given that most families do not use paid child care. Moreover, if social trends continue where people increasingly use paid care instead of unpaid care, the statistical models will reflect this over time, and we could potentially see some convergence in the SIPP median methods and statistical model approaches anyway. In future research, we will use data from subsequent panels to examine this issue more closely.

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Table 1: Percent with Child Care Expenses, By Method

Measure/method	Single-Parent Families		Married-Couple Families	
	Mean	Correlation	Mean	Correlation
Reported percentage	46.5	--	50.0	--
NAS method	46.6	0.15	50.1	0.26
Augmented regression	47.8	0.21	50.0	0.28
Augmented MLE tobit	43.1	0.18	46.5	0.28
Matching	47.2	0.11	49.8	0.25
SIPP median method	100.0	--	100.0	--

Source: Tabulations of 1993 Survey of Income and Program Participation data

Note: Universe consists of people in working families with children under 12

Table 2. Comparison of Weekly Expenses, by Imputation Method

Measure/method	Single-Parent Families			Married-Couple Families		
	Mean	Std. Dev.	Corr.	Mean	Std. Dev.	Corr.
Reported child care expenses	40.4	118.0	--	50.2	102.5	--
NAS method	59.7	109.2	0.11	60.3	94.4	0.20
Trimmed NAS method	42.2	69.2	0.12	52.1	77.4	0.22
Augmented linear regression	42.4	69.3	0.19	52.3	77.8	0.25
Augmented log-linear regression	42.2	108.3	0.16	49.0	90.6	0.24
Augmented square root regression	37.5	62.7	0.20	47.5	70.8	0.27
Augmented MLE tobit	39.6	65.1	0.18	49.0	74.5	0.25
Matching	41.0	106.0	0.19	53.0	111.2	0.22
SIPP median expenditure	45.0	19.8	0.23	49.8	23.0	0.37

Source: Tabulations of 1993 Survey of Income and Program Participation data

Note: Universe consists of working families.

Table 3. Comparison of Adjustments for Discretionary Child Care Expenditures

	Single-Parent Families	Married-Couple Families
	Mean	Mean
Weekly expenditures times 52	2103	2609
Weekly expenditures times weeks worked capped by earnings	1269	2072
Weekly expenditures times weeks worked capped by earnings and CDCTC (NAS method)	803	1243
Weekly expenditures minus model-based adjustment times weeks worked	984	1961
SIPP median expenditures times weeks worked capped by earnings	1528	2053

Source: Tabulations of 1993 Survey of Income and Program Participation data

Note: Universe consists of working families with children under 12.

**Table 4: Marginal Impact of Child Care Expenses on Poverty Rates,
by Demographic Subgroups and Method of Estimation, 1995**

	Poverty rate after subtracting child care expenses				
	Official Poverty Measure	NAS method	Augmented MLE Tobit with NAS discretionary caps	Augmented MLE Tobit with new discretionary caps	SIPP Median Method
Total families with children under 12	18.2	18.8	19.2	19.1	20.1
Race/Ethnicity of householder					
Non-Hispanic, not Black	11.3	11.9	12.2	12.0	12.9
Non-Hispanic, Black	39.4	40.2	41.3	41.2	43.0
Hispanic	35.0	35.9	35.8	36.0	36.9
Family type					
Married-couple	8.7	8.9	8.9	9.0	9.4
Male-householder	12.0	12.0	12.0	16.1	12.0
Female-householder	41.8	43.6	44.9	43.9	46.8
Work status of "mother"					
Works 0 hours per week	38.3	38.3	38.3	38.3	38.3
Works 1-20 hours per week	16.7	17.6	16.9	17.6	18.3
21-34 hours per week	13.8	15.3	15.3	14.7	16.9
35+ hours per week	7.1	7.8	8.8	8.6	9.8
Age of youngest child					
Under 3 years of age	19.2	20.1	20.2	20.4	21.2
3-5 years of age	18.9	19.8	20.5	20.2	21.6
6-11 years of age	16.8	17.1	17.5	17.2	18.0
Number of children under 12					
1	15.3	15.8	16.3	15.9	17.0
2	15.9	16.7	16.9	16.9	18.0
3+	32.9	33.8	34.0	34.8	34.8

Source: Tabulations of 1993 Survey of Income and Program Participation data

Universe: Families with children under 12.